UNITED STATES PATENT AND TRADEMARK OFFICE

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09/660,094	09/12/2000	Ashok N. Rudrapatna	15-5	7322

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2661	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

Page 1, line 8 of the specification makes reference to another patent application.

5   However, the serial number for that patent application was left blank.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

10   form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15

Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by

Tiedemann et al. (WO 98/35514).

In regard to claim 1, Tiedemann et al. disclose "a method for partitioning code

20   space in a communication system, comprising the steps of:

dividing a code space into at least two subspaces, where codes in the first

subspace are assigned to at least one user at a time for a communication session and

where all of the codes in the second subspace are assigned to one user (page 5, lines

9-10 show a code space being divided into at least two subspaces; page 7, lines 6-13

25   show that one remote station or user is assigned to the primary code channel which is

taken to be the same as the second subspace, and the secondary code channels are

taken to be the first subspace);

  assigning a first code to a user currently using a second code in one subspace

(page 8, lines 3-8 where both the primary and secondary channels use different codes

5 as is known in the art; a user is initially using the code of the primary channel or the

second code but must be assigned into the secondary channels or be assigned a first

code to accommodate an increase in user data flow); and

  performing an in-sector handoff of the user from the second code to the first code

(page 8, lines 3-8 where the assigning of the first code from the second code is the

10 functional equivalent of an in-sector handoff because the user is changing channels

within a sector)."

  In regard to claim 4, Tiedemann et al. disclose "the method of claim 1, wherein

the first subspace is used for voice communication (page 5, lines 16-17 and page 7,

15 lines 14-16 where the data type of the first subspace (or secondary channels) "can be of

various types" which includes the voice activity described on page 5)."

  In regard to claim 5, Tiedemann et al. disclose "the method of claim 1, wherein

the second subspace is used for data communication (page 7, lines 10-13 where the

20 primary code channel is the second subspace)."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5

Claims 2, 3, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable

10   over Tiedemann et al. in view of Gilhousen (WO 95/03652).

In regard to claim 2, Tiedemann et al. disclose the method of claim 1. However,

Tiedemann et al. lack "the step of assigning the second code to a different subspace."

Gilhousen however, discloses "the step of assigning the second code to a different

15   subspace (page 11, lines 3-4 where the Walsh sequence is the second code and by

reusing the second code in neighboring cells and sectors the code is assigned to a

different subspace)." It would have been obvious to one with ordinary skill in the art at

the time of invention to include the assigning of the second code to a different subspace

with the method of claim 1 for the purpose of reusing the channel. The motivation being

20   not wasting resources.

In regard to claim 3, Tiedemann et al. and Gilhousen disclose the method of

claim 2. However, Tiedemann et al. lack "the user is using the second code in the first

subspace." Gilhousen however, further discloses "the user is using the second code in

25   the first subspace (page 8, lines 3-4 where the neighboring cells are considered to be

part of the first subspace as the first subspace has one or more users and one of these

users will reuse the second code, the code is thus being used in the first subspace)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the second code being used in the first subspace with the method of claim 2 for the same reasons and motivation as in claim 2.

5

In regard to claim 6, Tiedemann et al. disclose "a method for partitioning code space in a communication system, comprising the steps of:

dividing a code space into at least two subspaces, where codes in the first subspace are assigned to at least one user at a time for a communication session and

10   where all of the codes in the second subspace are assigned to one user (page 5, lines 9-10 show a code space being divided into at least two subspaces; page 7, lines 6-13 show that one remote station or user is assigned to the primary code channel which is taken to be the same as the second subspace, and the secondary code channels are taken to be the first subspace);

15   assigning a first code to a user currently using a second code in one subspace (page 8, lines 3-8 where both the primary and secondary channels use different codes as is known in the art; a user is initially using the code of the primary channel or the second code but must be assigned into the secondary channels or be assigned a first code to accommodate an increase in user data flow);

20   handing off the user from the second code to the first code (page 8, lines 3-8 where the assigning of the first code from the second code is the functional equivalent of an in-sector handoff because the user is changing channels within a sector)..."

However, Tiedemann et al. lack "...assigning the second code to a different

subspace." Gilhousen however, discloses "...assigning the second code to a different

subspace (page 11, lines 3-4 where the Walsh sequence is the second code and by

reusing the second code in neighboring cells and sectors the code is assigned to a

5   different subspace)." It would have been obvious to one with ordinary skill in the art at

the time of invention to include the assigning of the second code to a different subspace

with the rest of the method for the purpose of reusing the channel. The motivation being

not wasting resources.

10   In regard to claim 7, Tiedemann et al. and Gilhousen disclose the method of

claim 6. However, Tiedemann et al. lack "the user is using the second code in the first

subspace." Gilhousen however, further discloses "the user is using the second code in

the first subspace (page 8, lines 3-4 where the neighboring cells are considered to be

part of the first subspace as the first subspace has one or more users and since one of

15   these users will reuse the second code, the code is thus being used in the first

subspace)." It would have been obvious to one with ordinary skill in the art at the time of

invention to include the second code being used in the first subspace with the method of

claim 6 for the same reasons and motivation as in claim 6.

20   In regard to claim 8, Tiedemann et al. and Gilhousen disclose the method of

claim 6. However, Gilhousen lacks "the first subspace is used for voice communication."

Tiedemann et al. however, further discloses "the first subspace is used for voice

communication (page 5, lines 16-17 and page 7, lines 14-16 where the data type of the

first subspace (or secondary channels) "can be of various types" which includes the

voice activity described on page 5)." It would have been obvious to one with ordinary

skill in the art at the time of invention to include the first subspace used for voice

5   communication with the method of claim 6 for the same reasons and motivation as in

claim 6.

In regard to claim 9, Tiedemann et al. and Gilhousen disclose the method of

claim 6. However, Gilhousen lacks "the second subspace is used for data

10   communication." Tiedemann et al. however, further discloses "the second subspace is

used for data communication (page 7, lines 10-13 where the primary code channel is

the second subspace)." It would have been obvious to one with ordinary skill in the art

at the time of invention to include the second subspace used for data communication

with the method of claim 6 for the same reasons and motivation as in claim 6.

15

Claims 14, 17, and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tiedemann et al. in view of Schilling (U.S. Patent 5,410,568).

In regard to claim 14, Tiedemann et al. disclose "a method for partitioning code

20   space in a communication system, comprising the steps of:

dividing a code space into at least two subspaces, where codes in the first

subspace are assigned to at least one user at a time for a communication

session...(page 5, lines 9-10 show a code space being divided into at least two

subspaces; page 7, lines 6-13 the secondary code channels are taken to be the first

subspace);

     assigning a first code to a user currently using a second code in one subspace

5   (page 8, lines 3-8 where both the primary and secondary channels use different codes

as is known in the art; a user is initially using the code of the primary channel or the

second code but must be assigned into the secondary channels or be assigned a first

code to accommodate an increase in user data flow);

     performing an in-sector handoff of the user from the second code to the first code

10   (page 8, lines 3-8 where the assigning of the first code from the second code is the

functional equivalent of an in-sector handoff because the user is changing channels

within a sector)..."

     Tiedemann et al. lack "...all of the codes in the second subspace are assigned to

one of a plurality of users on a time shared basis." Schilling however, discloses "...all of

15   the codes in the second subspace are assigned to one of a plurality of users on a time

shared basis (col. 2, lines 10-20 and figures 8 and 10 where the signal is a coded signal

with time shared slots)." It would have been obvious to one with ordinary skill in the art

at the time of invention to include the time shared basis with the rest of the method for

the purpose of having little or no interference between users. The motivation being

20   allowing full duplex communication between a base station and user.

In regard to claim 17, Tiedemann et al. and Schilling disclose the method of claim 14. However, Schilling lacks "the first subspace is used for voice communication." Tiedemann et al. however, further discloses "the first subspace is used for voice communication (page 5, lines 16-17 and page 7, lines 14-16 where the data type of the

5   first subspace (or secondary channels) "can be of various types" which includes the voice activity described on page 5)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the first subspace used for voice communication with the method of claim 14 for the same reasons and motivation as in claim 14.

10

In regard to claim 18, Tiedemann et al. and Schilling disclose the method of claim 14. However, Schilling lacks "the second subspace is used for data communication." Tiedemann et al. however, further discloses "the second subspace is used for data communication (page 7, lines 10-13 where the primary code channel is the second

15   subspace)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the second subspace used for data communication with the method of claim 14 for the same reasons and motivation as in claim 14.

Claims 10-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being

20   unpatentable over Tiedemann et al. and Gilhousen and further in view of Schilling.

In regard to claim 10 Tiedemann et al. disclose "a method for partitioning code space in a communication system, comprising the steps of:

dividing a code space into at least two subspaces, where codes in the first subspace are assigned to at least one user at a time for a communication

5   session...(page 5, lines 9-10 show a code space being divided into at least two subspaces; page 7, lines 6-13 the secondary code channels are taken to be the first subspace);

assigning a first code to a user currently using a second code in one subspace (page 8, lines 3-8 where both the primary and secondary channels use different codes

10   as is known in the art; a user is initially using the code of the primary channel or the second code but must be assigned into the secondary channels or be assigned a first code to accommodate an increase in user data flow);

handing off the user from the second code to the first code (page 8, lines 3-8 where the assigning of the first code from the second code is the functional equivalent

15   of an in-sector handoff because the user is changing channels within a sector)..."

However, Tiedemann et al. lack "...assigning the second code to a different subspace." Gilhousen however, discloses "...assigning the second code to a different subspace (page 11, lines 3-4 where the Walsh sequence is the second code and by reusing the second code in neighboring cells and sectors the code is assigned to a

20   different subspace)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the assigning of the second code to a different subspace

with the rest of the method for the purpose of reusing the channel. The motivation being
not wasting resources.

Furthermore, Tiedemann et al. and Gilhousen lack "...all of the codes in the
second subspace are assigned to one of a plurality of users on a time shared basis."

5   Schilling however, discloses "...all of the codes in the second subspace are assigned to
one of a plurality of users on a time shared basis (col. 2, lines 10-20 and figures 8 and
10 where the signal is a coded signal with time shared slots)." It would have been
obvious to one with ordinary skill in the art at the time of invention to include the time
shared basis with the rest of the method for the purpose of having little or no

10   interference between users. The motivation being allowing full duplex communication
between a base station and user.

In regard to claim 11, Tiedemann et al., Gilhousen, and Schilling disclose the
method of claim 10. However, Tiedemann et al. and Schilling lack "the user is using the

15   second code in the first subspace." Gilhousen however, further discloses "the user is
using the second code in the first subspace (page 8, lines 3-4 where the neighboring
cells are considered to be part of the first subspace as the first subspace has one or
more users and since one of these users will reuse the second code, the code is thus
being used in the first subspace)." It would have been obvious to one with ordinary skill

20   in the art at the time of invention to include the second code being used in the first
subspace with the method of claim 10 for the same reasons and motivations as in claim
10.

In regard to claim 12, Tiedemann et al., Gilhousen, and Schilling disclose the method of claim 10. However, Gilhousen and Schilling lack "the first subspace is used for voice communication." Tiedemann et al. however, further discloses "the first

5   subspace is used for voice communication (page 5, lines 16-17 and page 7, lines 14-16 where the data type of the first subspace (or secondary channels) "can be of various types" which includes the voice activity described on page 5)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the first subspace used for voice communication with the method of claim 10 for the same

10   reasons and motivation as in claim 10.

In regard to claim 13, Tiedemann et al., Gilhousen, and Schilling disclose the method of claim 10. However, Gilhousen and Schilling lack "the second subspace is used for data communication." Tiedemann et al. however, further discloses "the second

15   subspace is used for data communication (page 7, lines 10-13 where the primary code channel is the second subspace)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the second subspace used for data communication with the method of claim 10 for the same reasons and motivation as in claim 10.

20

In regard to claim 15, Tiedemann et al. and Schilling disclose the method of claim 14. However, Tiedemann et al. and Schilling lack "the step of assigning the second

code to a different subspace." Gilhousen however, discloses "the step of assigning the

second code to a different subspace (page 11, lines 3-4 where the Walsh sequence is

the second code and by reusing the second code in neighboring cells and sectors the

code is assigned to a different subspace)." It would have been obvious to one with

5   ordinary skill in the art at the time of invention to include the assigning of the second

code to a different subspace with the method of claim 14 for the purpose of reusing the

channel. The motivation being not wasting resources.

In regard to claim 16, Tiedemann et al., Gilhousen, and Schilling disclose the

10   method of claim 15. However, Tiedemann et al. and Schilling lack "the user is using the

second code in the first subspace." Gilhousen however, further discloses "the user is

using the second code in the first subspace (page 8, lines 3-4 where the neighboring

cells are considered to be part of the first subspace as the first subspace has one or

more users and since one of these users will reuse the second code, the code is thus

15   being used in the first subspace)." It would have been obvious to one with ordinary skill

in the art at the time of invention to include the second code being used in the first

subspace with the method of claim 15 for the same reasons and motivation as in claim

15.

20   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joshua Kading whose telephone number is (703) 305-

0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or

5   proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Joshua Kading
Examiner
Art Unit 2661

JK
10   November 25, 2003

KENNETH VANDERPUYE
PRIMARY EXAMINER